STS | AECOM

STS
750 Corporate Woods Parkway, Vernon Hills, IL 60061
T 847.279.2500 F 847.279.2510 www.sts.aecom.com

August 20, 2008

Mr. Dennis Poulos
Power Construction Company, LLC
2360 N. Palmer Dr,
Schaumburg, IL 60173

RE: Radiological Survey of Right-of-Way Utility Excavation
Permit No.: D07214-01
Permit Address: 505 N. McClurg Court
STS Project No. 1-27313XC

Dear Mr. Poulos:

Pursuant to conditions specified in a permit (see attached) issued by the City of Chicago, radiation monitoring was required to be performed at the above-referenced site. STS provided the required radiation surveillance for the sidewalk reconstruction on eastern sidewalk of North McClurg Court between E. Illinois Street and E. Grand Ave. Activities conducted in July 2008 included the replacement of the sidewalk from the middle of N. McClurg Court to Grand Avenue. The southern portion of sidewalk had been replaced earlier in the summer without an indication of the potential presence of radiologically-impacted soil (i.e., elevated gamma readings).

The excavation and screening activities were initiated on July 23, 2008. The sidewalk reconstruction and radiological surveying started at the northern property boundary (near E. Grand Ave.) and continued southward towards E. Illinois Street. Curbs and remaining sidewalks were being replaced, and a trench was excavated for a landscape (tree and flower bed) planting area as well as new sidewalks. The width of the final trench was approximately 13.5-feet with a depth of approximately 3-feet.

A conduit for traffic lights was unexpectedly encountered during excavation. Utility locaters had been out prior to the beginning of excavation, but had not indicated the presence of electrical conduit in this area. The exposed pipe appeared to be cracked; however, the wires remained intact. The Bureau of Electricity was contacted on July 24, 2008 and arrived the afternoon of July 25, 2008 to repair the line.

Gamma radiation count measurements for the project were made using a Ludlum Model 2221 survey meter and an unshielded 2 x 2 NaI probe (Model 44-10). The USEPA threshold for Chicago is 7.1 picocuries per gram (pCi/g) total radium (Ra-226 + Ra-228). For the instrumentation used, the gamma count indicative of the 7.1 pCi/g threshold was 18,703 counts per minute (cpm). Surveying was performed as curbs and sidewalks were removed and again in 18-inche lifts as the existing soils were excavated for the trench. When elevated gamma readings over twice background (about 14,000 cpm) were observed the thickness of the lifts was reduced to 3-6 inches.

On July 24, 2008 an area of elevated gamma readings (35,000 to 53,000 cpm) was found approximately 30 feet south of the Grand Avenue curb, 7 feet from the N. McClurg Court curb, at a depth of approximately 24 inches. The elevated readings were in an area that had been identified has potentially being radiologically-impacted during the initial screening and remediation work conducted in early 2006. Excavation in the areas with elevated gamma readings was performed in thin lifts as described above. The initial effort involved the removal of the non-impacted surface soils. Each bucket was surveyed in order to maximize the volume of clean soil (i.e., minimize the volume of radiologically-impacted soil generated). Excavation continued southward and identified elevated gamma readings at the base of the excavation over approximately a 44-foot section of the sidewalk right-of-way (refer to attached sketch). The radiologically-impacted material was generally observed at depths which varied between 18 and 36 inches. The impacted area was designated as an exclusion zone, properly fenced off and

posted with the appropriate signage. Excavation and screening continued approximately another 50 feet to the south, heading towards Illinois street. However, no elevated gamma readings were recorded in this southern most section of the right-of-way.

The excavation of radiologically-impacted soil was initiated late in the afternoon on Friday, July 25, 2008. Two super sacks were filled with elevated material and remained in the remediation/exclusion zone area. Excavation of elevated material continued the following week and was completed on July 29, 2008. A geotextile (landscape fabric) was placed over radiologically-impacted soil at the base and sides of the excavation prior to backfilling with structural soil and/or soil. The remediation efforts resulted in an estimated 12 to 15 cubic yards (15 one-yard supersacks) of radiologically-impacted soil being excavated to achieve the 3-foot depth necessary for the landscaping.

Two soil samples (A and B) were collected from the base of the excavation (refer to attached Nutranl results). The location from which the samples were collected is shown on the attached sketch. Duplicate samples from locations A and B were also collected, and per USEPA request, submitted to their contract laboratory. Results for two additional samples (C and D) representative of the impacted soil placed in the supersacks were also collected and analyzed. Finally, surveys of the excavation equipment used for the excavation of impacted soil were performed to verify that the equipment was free of contamination (refer to attached radiation survey form).

The supersacks were staged in the northeast area of the property in the parking lot. Manifesting and transportation from the site for proper disposal was arranged through and carried out by ENSR (a subcontractor to Tronox). The 15 supersacks from the N. McClurg Court excavation, along with one supersack from the previous E. Illinois Street excavation (refer to STS ROW report dated June 10, 2008 for 403-430 E. Illinois – Permit No. 860856801), were transported from the site on August 12, 2008.

In summary, radiological surveys conducted in July along the N. McClurg Court indicated gamma reading with a maximum of about 6,500-14,000 cpm in non-impacted areas. The impacted area (a 44-foot span) had gamma readings which ranged from 35,000 cpm to over 600,000 cpm. To achieve the 3-foot depth necessary for the landscaping, remediation efforts generated an estimated 12 to 15 cubic yards of radiologically-impacted soil.

Finally, as part of the permit conditions, this letter has been forwarded to:

Chicago Department of Environment
Attention: Ms. Rahmat Begum
30 North LaSalle Street, 25th Floor
Chicago, Illinois 60602

Please contact us with any questions you have regarding this letter or the reported results.

Sincerely,

Jaclyn Webb
Project Scientist

Steven C. Kornder, Ph.D.
Senior Project Geochemist

Attachments: Permit
Sketch
Nutranl Lab Report
Survey Report

cc: Rahmat Begum, Chicago Department of Environment
Brad Toms, MCL
Vince Oleszkiewicz, DuaneMorris
Verneta Simon, USEPA

Tatyana Prudinsky - DOE.ROW.02.pdf Page 1

744-7204 - Rahmat
-3152

City of Chicago
Richard M. Daley, Mayor

Department of Environment

Sadhu A. Johnston
Commissioner

Twenty-fifth Floor
30 North LaSalle Street
Chicago, Illinois 60602-2575
(312) 744-7606 (Voice)
(312) 744-6451 (FAX)
(312) 744-3586 (TTY)
http://www.cityofchicago.org

Permit No.
D07214-01

Date

Site Address
505 N Medary

Work Location (Describe exact site location and attach map)
[illegible] to permit
100142346

Nature of Work
Inspection

Expected Start Date

NEIGHBORHOODS ALIVE!
BUILDING CHICAGO TOGETHER

CITY OF CHICAGO DEPARTMENT OF ENVIRONMENT
FORM NO. DOE.ROW.02

Notice is hereby given that the site you have requested a permit for is recorded with the City of Chicago Department of Environment as potentially having environmental contamination on the site and adjacent right-of-way. This environmental contamination could present a threat to human health and safety in connection with work performed at the site, or in the adjacent right-of-way, if proper safeguards are not employed.

A file containing detailed information regarding the aforementioned environmental contamination is available for review at the Department of Environment at 30 N. LaSalle St., 25th Floor, Chicago, Illinois 60602 during normal business hours (8:30AM -4:30PM, Monday through Friday). Contact (312) 744-7606 for an appointment. This file must be reviewed and the remainder of this form completed before the permit can be issued if the ground is exposed or excavated. Please note that for some locations, additional health and safety procedures may be required by law.

Please complete the following:

I have reviewed and understand the documents, maintained by the Department of Environment, regarding environmental contamination of the site and adjacent right-of-way. Further, I will ensure that all work at the subject site and adjacent right-of-way, and any monitoring required including but not limited to radiation monitoring, will be performed in a manner that is protective of human health and the environment and in compliance with all applicable local, state, and federal laws, rules, and regulations, especially those pertaining to worker safety and waste management. I will ensure that the results of any radiation monitoring and/or surveying conducted shall be provided to the Department of Environment and the United States Environmental Protection Agency within two (2) weeks of their completion. If any elevated levels of radioactive material are detected, I will immediately contact the United States Environmental Protection Agency at (800) 424-8802.

Applicant Name (print) BRAD HARRIS

Signature [signature] Date 7-7-08

Company CONSTRUCTION SERVICE Associates

Company Address / Phone No. New Watchtower Chicago IL 60607
312-362-9018

Check if City Department Work ☐ Department Name

General / Prime Contractor POWER CONSTRUCTION
Include subcontractor information if applicable

Address 2360 N Palmer Dr

Phone No. 847 925-1300

Safety Officer / Phone No.

Radiation Contractor / Phone No. (if applicable) STS Consulting 847-264-0794

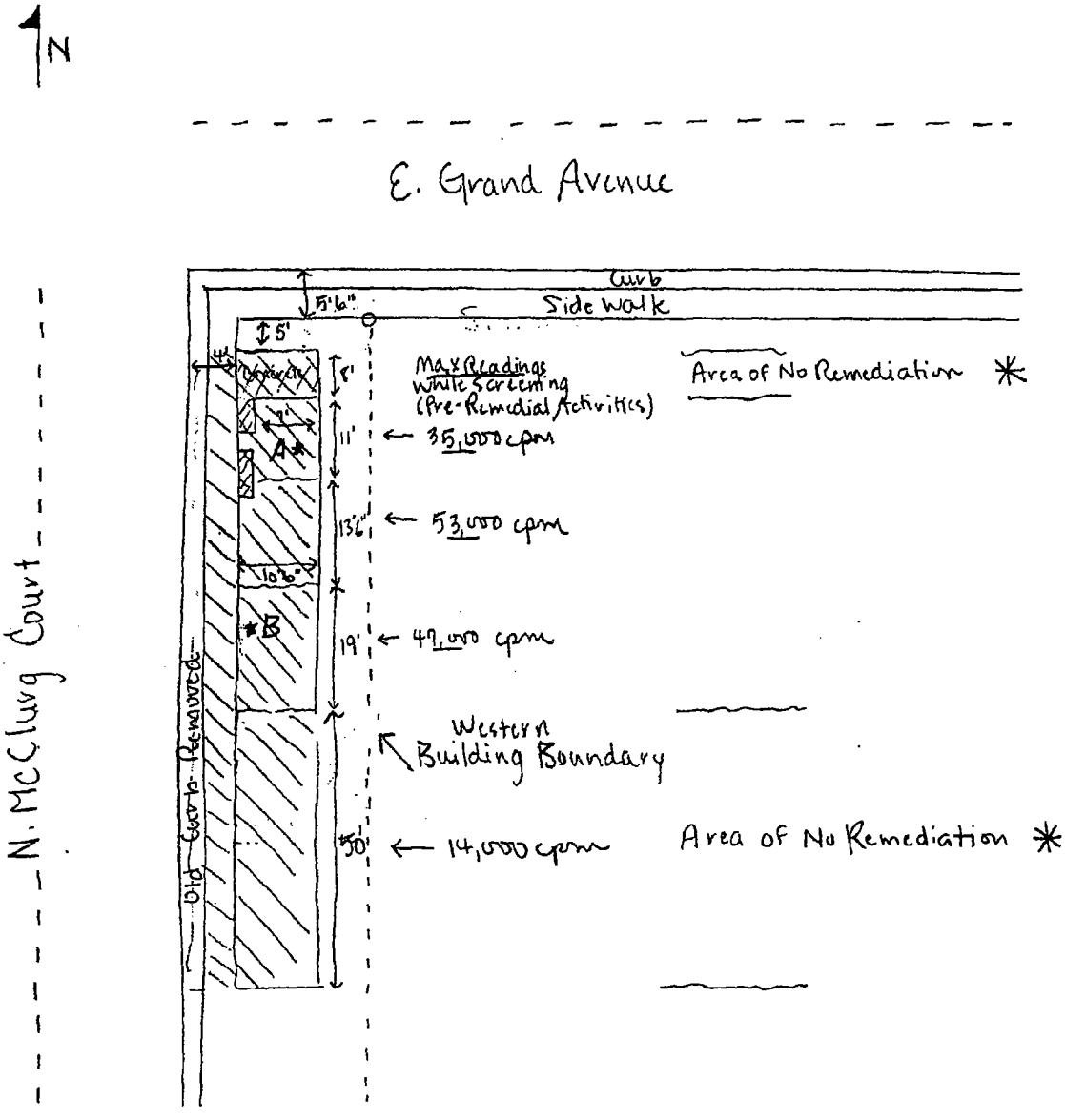
Department of Environment Approval / Date Rahmat Hussain Bagu 7/7/08

Please return this completed form to the City of Chicago Department of Transportation at 30 N. LaSalle St., Room 1101, Chicago, Illinois 60602 during normal business hours (8:30 AM - 4:30 PM, Monday through Friday).

For DOE Use Only

CHICAGO WORKS

STS Consultants Ltd. CALCULATION SHEET	PROJECT 505 . McClurg Ct. (MCL)				STS JOB NO. X127313Xd
	SUBJECT Right of Way - Remediation Area				SHEET NO. 1 OF 1
	ORIGINATED BY J. Webb	DATE 7/21-7/29	CHECKED BY SC	DATE 8/18/08	CALC. NO. / REV. NO. /



Key: * Samples Taken

Concrete remained @ ~ 34"

Area of Excavation/Remediation to depth of ~ 36"

* Refer to Corresponding Areas to the Left.

Nutranl Gamma Spec Report - STS McClurg Ct. Sidewalk

Stan A. Huber Consultants, Inc.
200 North Cedar Road
New Lenox, IL 60451
(800) 383-0468

Sample ID	Analysis Date	Sample Group	Description	Weight	U-238 Activity	U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty
1647	7/31/2008	exclusion zone	S2487 McClurg MCL Sample A	25.8	80.41	75.12	225.11	21.24	21.56	25.57	246.67	33.24097622
1648	7/31/2008	exclusion zone	S2488 McClurg MCL Sample B	30.5	2.75	7.97	13.37	2.39	3.62	2.95	16.99	3.796656424
1649	7/31/2008	exclusion zone	S2489 McClurg MCL Sample C	30.3	171.02	76.33	272.23	21.89	175.05	27.9	447.28	35.46240404
1650	7/31/2008	exclusion zone	S2490 McClurg MCL Sample D	22.9	31.46	31.53	63.27	9.12	43.69	11.78	106.96	14.8977448

Sample A = Pre-Excavation in Place 250 kcpm
Sample B = Pre-Excavation in Place 60 kcpm
Sample C= From Excavated and Packaged Soil 600 kcpm
Sample D = Post Excavation, Still in Place 120 kcpm

sahci

Stan A. Huber Consultants, Inc.
Health Physics and Radiation Safety Services

200 North Cedar Road - New Lenox, Illinois 60451-1751 - (800) 383-0468 or (815) 485-6161 - FAX (815) 485-4433 - Email sahci@sahci.com - Home Page www.sahci.com

RADIATION SURVEY FORM

SURVEY REFERENCE #: N/A

DATE OF SURVEY: 8/11/08

NAME OF SURVEYOR: Glenn Huber

SURVEY METER IDENTIFICATION: **Mfg: Ludlum**

Background Reading: 0.02 mR/hr **Model: 14C**

Serial: 95059

INSTRUMENT ID: **Mfg: Ludlum**

Background Reading: 0.4 cpm (alpha) **Model: 2200 (scaler) / 43-10**

Efficiency: 33.4 % **Serial: 102770 / PR113195**
MDA: 8.7 dpm

Description (attached sketch if needed) (Area, equipment, vehicle, materials, etc.)	Item #	Gross mR/hr	Gross cpm	dpm per 100 sq. cm
Large Budron Backhoe Bucket - inside	1	0.02	4	11
- outside	2	0.02	1	2
Small Budron Backhoe Bucket - inside	3	0.02	3	8
- outside	4	0.02	3	8